**Mayra Allen**

**Water, Energy, and Waste: Integrating Themes of Sustainability into Your Classroom**

**Summer 2012**

**Course Instructor: Shakira Castronovo**

**Midterm Lesson Plan**

**Description**:

In alignment with New York City’s Science Scope and Sequence, fourth grade students learn about the impact that humans have on their environment, for example, air, water, and land. They also study the importance water is to our survival. This lesson will be taught as an introduction to water pollution including a humane perspective. Students will acquire greater knowledge of and compassion towards sea creatures, our oceans, and other bodies of water. In addition, students will also learn what items can be recycled and/or be reused.

**Topic:** Water Pollution, Humane Treatment of Ocean Creatures, and Recycling

**Grade Level**: Grade 4 and up

**Time**: 45-60 minutes

**Standards**:

**NYC Science Scope and Sequence**:

**LE 5.2g** Describe how the health, growth, and development of organisms are affected by environmental conditions such as availability of food, water, air, space, shelter, heat, and sunlight.

**LE 7.1a.b** Describe the way that humans:

* Depend on their natural and constructed environment.
* Have changed their environment over time.

**LE 7.1b,c** Identify examples where human activity has had a beneficial or harmful effect on other organisms.

**ELA Common Core Standards:**

**Reading Standards for Literature K-5, Key Ideas and Details #1**: **R4.1:** Students will refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.

**Writing Standards K-5, Text Types and Purposes, #2**: **W4.2:** Students will write informative/explanatory texts to examine a topic and convey ideas and information clearly.

**Teacher Professional Development Standards:**

Danielson Competency:

**Domain 3c: Engaging Students in Learning:**

* Activities and assignments
* Instructional materials and resources

**Objectives:** Students will be able to:

* Classify items and identify what group they belong to. (Analysis)
* Justify why they think these items belong to a certain group. (Evaluation)
* Read an informational article and refer to details and examples in a text when explaining what the text says explicitly and drawing inferences from the text. (Comprehension)
* Categorize the items into recyclable and/or reusable. (Synthesis)

**Materials**:

* 1 plastic garbage bag, sweatpants, a golf ball, a few plastic surgical gloves, small towels, 1 plastic one-gallon jug, other bits of plastic (e.g. plastic utensils, plastic cups, soda bottle, plastic containers), and 20 plastic bags.
* Article titled “Beached Whale's Stomach Found To Be Full Of Fresh Trash”
* Recyclable/Reusable graphic organizer for categorizing items

# Procedure:

# Motivation:

# The teacher should stand in front of the class on a chair and dump the entire large plastic garbage bag with all the items listed above on the floor of the classroom. Tell them that all of these things have something in common. Have students name what they see. Then give them 3-5 minutes in their groups to discuss what they think these items all have in common.

# After, ask students to share what they believe the items have in common and justify their reasoning.

# Next, the teacher should reveal to the students that a similar collection of items was found in the stomach of a whale that washed up on the Puget Sound, near Seattle, Washington.

# Active Engagement:

# Hand out the article and have students in their groups read and discuss the article. Some things that can be discussed are: “What was the article about? Give some details regarding how the water was polluted. Give some facts about gray whales. Do you think that the trash found in its stomach had anything to do with the whale’s death? How can we continue helping whales? How can we spread awareness of water pollution?” The teacher should go around listening in on students’ discussions to assess their knowledge of water pollution. Students should then share out their discussions with the rest of the class and use “accountable talk” to continue the conversation.

# Following the whole-group conversation about the article, students will categorize the items into recyclable and/or reusable using a graphic organizer. Students should examine the items asking the following questions:

# Is this item recyclable, reusable, or both so that it could have been kept out of the waste stream?

# What creative ideas can you come up with to reuse this item?

# How could people have prevented these items from winding up in the ocean?

# Closing:

# One member from each group can report on one item to the whole class.

# The teacher should open the class discussion on how we can diminish the trash we produce and how we can dispose of it responsibly.

**Resources**:

1. Article: “Beached Whale's Stomach Found To Be Full Of Fresh Trash”

<http://seattletimes.nwsource.com/html/localnews/2011657607_graywhale21m.html>

1. The Power and Promise of Humane Education by Zoe Weil

**NAME:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ DATE:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Recyclable, Reusable, or Both!**

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| --- | --- | --- |
| **Item** | **Recyclable, Reusable, or Both** | **Creative Ways to Reuse this Item** |
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**Rubric for Lesson One**

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|  | 4 | 3 | 2 | 1 |
| **Classifying items** | Able to classify most or all items in the garbage bag. | Able to classify five of the items in the garbage bag. | Able to classify two to four of the items in the garbage bag. | Unable to classify any of the items in the garbage bag. |
| **Justifying Grouping** | Able to justify in explicit detail how these items could be found together, e.g. in a whale’s stomach. | Able to justify how some of the items could be found together, but not all. | Attempted to justify how some of the items could be found together, but some explanations did not make sense. | Unable to justify how the items could be found together. |
| **Text Comprehension** | Able to read an informational article and refer to details and examples in a text when explaining what the text says explicitly and draw inferences from the text. | Able to read an informational article and refer to details and examples in a text. | Able to read an informational article and refer to some details in the text. | Unable to refer to details and examples from the text. |
| **Categorizing Items** | Able to categorize most or all items correctly in the “Recyclable, Reusable, or Both!” graphic organizer.  Came up with creative ways to reuse items. | Able to categorize five items correctly in the “Recyclable, Reusable, or Both!” graphic organizer.  Came up with creative ways to reuse items. | Able to categorize two to four items correctly in the “Recyclable, Reusable, or Both!” graphic organizer.  Came up with some creative ways to reuse items. | Unable to categorize items correctly in the “Recyclable, Reusable, or Both!” graphic organizer.  Did not come up with creative ways to reuse items. |
| **Group Work** | Group members worked cooperatively, respectfully, asked each other questions, and used “accountable talk” to build great conversations. | Group members worked cooperatively, respectfully, asked each other some questions, and used “accountable talk” to build good conversations. | Group members worked cooperatively, respectfully, asked each other some *recall* questions, and used some “accountable talk”, but the conversation didn’t always flow. | Group members didn’t work cooperatively and respectfully.  Members didn’t ask each other questions or use “accountable talk.” |

**Total Points out of 20:\_\_\_\_\_\_\_\_\_\_\_\_**

**Total Points / 5 =\_\_\_\_\_\_\_\_\_\_**